UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/786,725	04/23/2001	Hans-Werner Heinrich	101195-44	4120

27387 7590 07/01/2005

NORRIS, MCLAUGHLIN & MARCUS, P.A.
875 THIRD AVE
18TH FLOOR
NEW YORK, NY 10022

EXAMINER	
WILLIAMS, KAREN M	

ART UNIT	PAPER NUMBER
PCT	

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/786,725	HEINRICH ET AL.	
	Examiner	Art Unit	
	James L. Grun	1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *04/23/2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Technology Center 1600, Group 1640, Art Unit 1641.

The disclosure is objected to because of the following informalities: the specification contains too many grammatical, idiomatic, and spelling errors to list specifically and should be carefully revised--for example: page 2, line 21, "methods fails"; page 3, lines 17-18, "anti-elastic"; page 4, line 23, "al"; page 4, line 29, "an suitable"; page 6, line 2, "bodies"; page 6, line 5, "myelome" and "hybridome"; numerous "free connecting places" or "cavities"; etc., are recited. Appropriate correction is required.

The following is a quotation of the first paragraph of 35 U.S.C. § 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to provide an adequate written description of the invention, and failing to adequately teach how to make and/or use the invention, i.e. failing to provide an enabling disclosure.

Claims 2-6, 10, 11, and 16-18 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, and which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with

which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

The specification does not reasonably provide description of or enablement for any and every antibody population specific for pancreatic elastases. Applicant provides guidance only for polyclonal antibodies and provides no guidance as to what modifications or structure are important for the predictable function of any monospecific antibody. Very different structures may be found on antibodies with the same specificity. For example, very different variable heavy (V_H) chains can combine with the same variable light (V_L) chain to produce antibody binding sites with nearly the same size, shape, antigen specificity, and affinity. A similar phenomenon can also occur when different V_H sequences combine with different V_L sequences to produce antibodies with very similar properties. These observations indicate that divergent variable region sequences, both in and out of complementarity-determining regions, can be folded to form similar binding site contours, which result in similar immunochemical characteristics. Conversely, similar structure may be found on antibodies having different specificities. In the absence of any guidance to the use of particular monoclonal antibodies, one would not know or be able to predict or envision what structure or modifications were important for function. Therefore, conception is not achieved until reduction to practice has occurred, regardless of the complexity or simplicity of the method of isolation. Adequate written description requires more than a mere statement that a molecule is part of the invention and a reference to a potential method of isolating it. The molecule itself is required. Furthermore, In *The Reagents of the University of California v. Eli Lilly* (43 USPQ2d 1398-1412), the court held that a generic statement which defines a genus of molecules by only their functional activity does

not provide an adequate written description of the genus. The court indicated that although applicants are not required to disclose every species encompassed by a genus, the description of a genus is achieved by the recitation of a representative number of molecules falling within the scope of the claimed genus. Applicant is reminded that the written description provision of 35 USC 112 is severable from its enablement provision. However, in view of the guidance in the instant specification to not even a single monospecific species, the amount of experimentation required to determine functional structures or modifications for usable species would be undue. For example, as noted above, very different structures may be found on antibodies with the same specificity, and conversely, similar structure may be found on antibodies having different specificities and one would not know, given the instant guidance and absent further unguided experimentation, what variable region changes would predictably function in the invention. Note that an enabling disclosure for the preparation and use of only a few analogs of a product does not enable all possible analogs where the characteristics of the analogs are unpredictable. See *Amgen Inc. v. Chugai Pharmaceutical Co. Ltd.* (18 USPQ 2d 1027 (CAFC 1991)).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-11 and 16-18 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-11 and 16 involve method claims and, as such, they should clearly set forth the various method steps in a positive, sequential manner using active tense verbs such as mixing, reacting, and detecting. "Employing" or "using" are not valid method steps. These claims are indefinite because without active, positive steps delimiting how the method is actually practiced it is unclear what method/process applicant is intending to encompass. The claims should also clearly state each component used in the method and the relationship of the various components, and should not be a mere cataloging of parts. The claims should also conclude with a step relating the method result to the purpose of the method, preferably to the purpose as also set forth in the preamble of the claim. In these claims, "wherein," or "characterized by," "the fact that" is improper claim language and is vague as to what is encompassed because it is not clear if open or closed claim language is intended and therefore the terms do not clearly set forth the metes and bounds of the invention for which applicant desires protection.

In claims 1-6, "the pancreas", "the overall content", and "the serum..." lack antecedent basis.

Claims 2-5 should recite --The procedure-- for proper reference to the previously recited claim components.

In claims 2-4, recitations of "the amino-acid sequence" lack antecedent basis. It is not clear what is intended by "singly and specifically or cross-reactively" antibodies.

Claim 3 is vague as to what is encompassed because there are multiple periods.

In claims 3 and 4, "the complete..." lacks antecedent basis.

In claims 3-4, improper Markush language is used to claim the members of the group. The alternatives "selected from...or" or "selected from the group consisting of...and" are acceptable.

Claim 4 fails to end with a period. In claim 4, "the immunisation" lacks antecedent basis. It is believed that --antigens-- was intended.

In claim 6, "the diagnosis" lacks antecedent basis. This claim is of improper dependent form for failing to further limit the subject matter of a previous claim.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 7 and claims dependent thereupon recite the broad recitation "vertebrates", and also recite "especially of small mammals and birds" which is the narrower statement of the range/limitation. Moreover, claim 8 recites the broad recitation "carrier substances", and the claim also recites "primarily haemoczanine [sic.] or albumin" which is the narrower statement of the range/limitation.

In claim 7 and claims dependent thereupon, "the usual immunization..." and "the peptides" lack antecedent basis. Moreover it is not clear how one determines what is "usual" and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claims 8 and 9 should recite --The procedure-- for proper reference to the previously recited claim components.

In claim 8, "the free peptides" lacks antecedent basis. Moreover it is not clear how one determines what is "suitable" and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is believed that --hemocyanin-- was intended.

Claims 10, 11, and 16 are of improper dependent form for failing to further limit the subject matter of a previous claim.

In claim 16, "the invention antibodies" lack antecedent basis. In this claim, "characterized by the fact that" is improper claim language and is vague as to what is encompassed because it is not clear if open or closed claim language is intended and therefore the terms do not clearly set forth the metes and bounds of the invention for which applicant desires protection.

Claims 17 and 18 are indefinite in that the claims set forth an intended use but fail to point out what components are included or excluded by the claim language. In claims 17 and 18, "the diagnosis" and "the pancreas" lack antecedent basis. In claim 18, "wherein the fact that" is improper claim language and is vague as to what is encompassed because it is not clear if open or closed claim language is intended and therefore the terms do not clearly set forth the metes and bounds of the invention for which applicant desires protection.

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 12-15 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. There is no indication that the product(s) as claimed are isolated and no claimed degree of purity for the product(s) which would indicate "the hand of man". Thus, the products as claimed are considered a product of nature which is non-statutory subject matter.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8, 10, and 12-18 are rejected under 35 U.S.C. § 102(b) as being anticipated by Sziegoleit et al. (Clin. Biochem. 22: 79, 1989) in light of the instant disclosure.

Sziegoleit et al. teach a sandwich enzyme-linked immunosorbent assay for diagnosis of pancreatitis or pancreatic cancer by determining pancreatic elastase 1 using polyclonal antibodies. The antibodies were elicited in several animal species, including rabbits, with complete elastase 1 which, in light of the instant disclosure, comprises the peptides as instantly claimed.

Claims 1-8 and 10-18 are rejected under 35 U.S.C. § 102(b) as being anticipated by Scheefers et al. (U.S. Pat. No. 5,622,837) in light of the instant disclosure.

Scheefers et al. (U.S. Pat. No. 5,622,837) teach determinations of pancreatic elastase 1 in serum and stool samples as indicative of pancreatic disease. The reference teaches determinations with sandwich immunoassays involving antibodies, preferably monoclonal, elicited to different epitopes of the protein, including the use of antibodies specific for particular epitopes therein, as a sensitive alternative to radioimmunoassay. In light of the instant disclosure, highly purified pancreatic elastase 1, as taught in the reference as an immunogen (see e.g. ¶ bridging col. 2-3) for elicitation of the antibodies, comprises the peptides as instantly claimed. The reagents for the method can be incorporated into a kit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James L. Grun, Ph.D., whose telephone number is (571) 272-0821. The examiner can normally be reached on weekdays from 9 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le, SPE, can be contacted at (571) 272-0823.

The phone number for official facsimile transmitted communications to TC 1600, Group 1640, is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application, or requests to supply missing elements from Office communications, should be directed to the Group receptionist whose telephone number is (571) 272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James L. Grun, Ph.D.
June 16, 2005

LONG V. LE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600
06/23/05